

CLAIMS

What is claimed is:

1 1. A method for managing an asynchronous transfer mode (ATM) cell,
2 comprising:

3 transmitting the ATM cell from a server system to a broadband modem; and
4 forwarding the ATM cell from the broadband modem to a client system.

1 2. The method of Claim 1, further comprising checking a header error control
2 (HEC) field in the ATM cell for corruption before forwarding the ATM cell to the client
3 system.

1 3. The method of Claim 1, further comprising processing the ATM cell at the
2 client system to retrieve raw data from a payload section of the ATM cell.

1 4. The method of Claim 1, wherein the broadband modem is an asymmetric
2 digital subscriber line (ADSL) modem.

1 5. The method of Claim 1, wherein the broadband modem is a cable modem.

1 6. The method of Claim 1, wherein the ATM cell is forwarded to the client
2 system via an Ethernet connection.

1 7. The method of Claim 1, wherein the ATM cell is forwarded to the client
2 system via a Universal Serial Bus (USB) connection.

1 8. The method of Claim 1, wherein the ATM cell is forwarded to the client
2 system via a IEEE 1394 connection.

1 9. A method for managing an asynchronous transfer mode (ATM) cell,
2 comprising:

3 transmitting the ATM cell from a client system to a broadband modem; and
4 forwarding the ATM cell from the broadband modem to a server system.

1 10. The method of Claim 9, further comprising generating the header error
2 control (HEC) field before forwarding the ATM cell to the server system.

1 11. The method of Claim 9, further comprising processing the ATM cell at the
2 client system to segment data into a payload of section of the ATM cell.

1 12. A method for managing a broadband modem, comprising:
2 transmitting a discovery signal over a connection;
3 entering a connect state in response to receiving a discovery acknowledge signal;
4 recording a media access control (MAC) address corresponding to the broadband
5 modem that transmitted the discovery acknowledge signal in response to the discovery
6 signal; and
7 transmitting a terminate message to other broadband modems connected to the
8 connection.

1 13. The method of Claim 12, further comprising specifying data formats that
2 may be supported in the discovery signal.

1 14. The method of Claim 12, further comprising recording a data format
2 selected by the broadband modem in the discovery acknowledge signal.

1 15. The method of Claim 12, further comprising:
2 sending a poll message to the broadband; and
3 entering a disconnect state if a poll acknowledge message is not received in
4 response to the poll message within a predefined period of time.

1 16. The method of Claim 12, further comprising transmitting a sleep message to
2 the broadband modem indicating that its binding client system is about to enter into a sleep
3 state.

1 17. A method for managing a broadband modem, comprising
2 transmitting a discovery acknowledge signal over a transmission medium in
3 response to receiving a discovery signal from a client system; and
4 entering a connect state.

1 18. The method of Claim 17, further comprising specifying a data format that
2 may be supported by the broadband modem among data formats specified in the discovery
3 signal.

1 19. The method of Claim 17, further comprising:
2 transmitting a poll acknowledge message to the client computer system in response
3 to receiving a poll message; and
4 entering a disconnect state if the poll message is not received within a predetermined
5 period of time.

1 20. The method of Claim 17, further comprising forwarding asynchronous
2 transfer mode (ATM) cells between the client system and a asymmetric digital subscriber
3 line (ADSL).

1 21. The method of Claim 20 further comprising generating and verifying a
2 header error control (HEC) field in the ATM cell.

1 22. The method of Claim 17, further comprising entering into a sleep state and
2 disabling an activity timer upon receiving a sleep message from the client system.

1 23. The method of Claim 22, further comprising:
2 entering into the connect state upon receiving a wake-up event from a second client
3 system; and
4 entering into a disconnect state if the poll message is not received from the client
5 system within the predetermined period of time.

1 24. A computer-readable medium having stored thereon a sequence of
2 instructions, the sequence of instructions including instructions which, when executed by a
3 processor, causes the processor to perform the steps of:
4 transmitting a discovery signal over a connection;
5 entering a connect state in response to receiving a discovery acknowledge signal;
6 recording a media access control (MAC) address corresponding to the broadband
7 modem that transmitted the discovery acknowledge signal in response to the discovery
8 signal;
9 transmitting a terminate message to other broadband modems connected to the
10 connection.

1 25. The computer-readable medium of Claim 24, further comprising
2 instructions which, when executed by the processor, causes the processor to perform the
3 step of specifying data formats that may be supported in the discovery signal.

1 26. The computer-readable medium of Claim 24, further comprising
2 instructions which, when executed by the processor, causes the processor to perform the
3 step of recording a data format selected by the broadband modem in the discovery
4 acknowledge signal.

1 27. The computer-readable medium of Claim 24, further comprising
2 instructions which, when executed by the processor, causes the processor to perform the
3 steps of:

4 sending a poll message to the broadband modem; and
5 entering a disconnect state if a poll acknowledge message is not received in
6 response to the poll message within a predefined period of time.

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1 28. A computer system, comprising:
2 a bus;
3 a processor coupled to the bus;
4 a network controller coupled to the bus;
5 a broadband modem coupled to the network controller via a connection;
6 an Asynchronous Transfer Mode (ATM) unit, coupled to the bus, that performs
7 ATM signaling, segmentation, and re-assembly procedures on ATM cells forwarded
8 between the broadband modem and the network controller.

1 29. The computer system of Claim 28, further comprising a broadband modem
2 access protocol unit, coupled to the bus, that discovers an identity of a broadband modem
3 coupled to the connection.